Approved For Release 2004 PLAT RDP78B04770A002300010005-2

mrnc/mass-6-098 14 September 1966

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HENCRAHEAN FOR:	Director, National Photogra	phic Interpretation Center	
SUBJECT :	Request for Approval of Twi Table with Measuring Stage	Project with 25	5X1
	FF 1967 Funding	25	5X1
	rt 1501 ranting		
REFERENCE :	Chief, Administrative Staff & February 1964 on: "Approv	, O/BDI Hemorandum of al of R&D Activities."	
for your approve out early in FY fabrication of viewing film ch:	•	tiations to be carried r the development and measuring stage for	
	stacked staff study, tab, an		
pertinent inform	mation and justification for	this project.	
level of		IONEL, VEAT	5X1
	Assistant for	Plans and Development, MPIC	
Attachments: =	/s		
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APPROV	ARTER C. LUMBARI. Director	Ave	
Mational Ma	otographic Interpretation Cen	ter	
Distributions		Declass Review by NGA.	*,

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CUMPIDEMINAL

GROUP 1
Excluded from automatic downgrading and

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3 August 1966

TWIN LIGHT SOURCE TABLE WITH MEASURING STAGE	
1. PROBLEM.	
To obtain a capability of utilizing the recently developed Zoom 70 Microstereoscope's Advanced Rhomboid Attachment for viewing film chips.	
2. FACTS BEARING ON THE PROBLEM.	
a. Recently an attachment for the standard Zoom 70 Stereoscope was developed which, because of its superior features, will increase the optical performance (and useful life) of that stereoscope.	25X ⁻
b. The optical design of this attachment resulted in a totally different physical configuration from the existing rhomboid attachment. This means that the new attachment cannot be operated on existing chip viewing light stages, e.g., LB46.	25X ²
c. The proposed light table will accommodate the Zoom 70 in either its old or its new configuration and also the existing M-5 Stereoscopes.	25X
d. The light table will provide a screw-driven translating stage to permit the controlled movement of properly aligned stereo pairs in unison without disturbing their relative orientation.	
e. Since it is often desirable for the operator to make comparative measurements to a reasonable degree of accuracy, the incorporation of simple shaft encoders (mechanical counters) on the stage drives makes it possible to obtain crude measurements without first moving the chips to another instrument.	
f. NPIC is currently purchasing large quantities of the new rhomboid attachment.	
3. <u>DISCUSSION</u> .	
a. Current Procedure - To view cut film (chips) with the Zoom 70 Stereoscope, the photo interpreter typically employs either a illumination stage to illuminate the imagery. Both of these devices were specifically	25X
designed for utilization with the standard Zoom 70.	25X
A new rhomboid attachment for the Zoom 70 with a radically different optical configuration has been developed which cannot be used with the existing illuminators because the objective lenses of	

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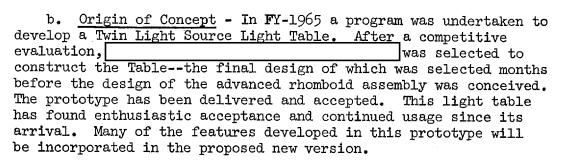
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this attachment cannot be positioned over the lighted area of these

illumination stages.

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- c. Proposed Program This project will result in the fabrication of a prototype twin light source stereoscopic light table and one set of directly reproducible manufacturing drawings and specifications. The light table will incorporate the following characteristics:
 - a. The viewing area will be divided, by a removable partition, into two independent light sources for viewing images which differ in density.
 - b. The light sources are to be high-intensity cold cathode grids which will provide maximum brightness and evenness of illumination. Maximum intensity for each light source will be 2500 ft.-lamberts.
 - c. The light sources are to be adjustable by highly reliable dimming controls by which brightness can be varied over the entire range (2,500 200 ft.-lamberts) without visible evidence of flicker.
 - d. The mensuration scanning stage will be moved by lead screws having an accuracy of $\pm .0001$ 'per inch. Digital readout, as a 4-digit number, will be provided for each axis.

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d. Selection of Contractor submitted an unsolicited proposal to develop the Twin Light Source
Light Table with Measuring Stage. In a previous competitive
evaluation, they were selected to develop a prototype Twin Source
Light Table--an instrument that is very similar to the proposed
device--and were extremely successful in that development. It would
be unrealistic in regard to both time and expense to continue the

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development of this basic concept with a different contractor.

- e. <u>Program Phasing</u> The contractor will design, fabricate, and deliver the prototype light table in thirteen weeks after the contract date.
- f. Coordination This project has been closely coordinated with both the Photographic Analysis Group, NPIC and the Imagery Analysis Division, CIA. Coordination with other Center components will be established through the Technical Development Board. Care has been taken to avoid duplication of efforts by other government activities.
- g. Alternatives The only alternative to this approach would be to disregard the development of the Advanced Rhomboid Attachment and to continue to use the Zoom 70 in its conventional manner. Employment of the new attachment necessitates this development as soon as possible.

The Advanced Rhomboid Attachment promises to be a significant

4. CONCLUSIONS.

Ste nat	ance in the utilization of the existing reoscopes. Since this instrument cannot be used erials with our existing illumination stages a ret be developed.	-	25X1
ō•	RECOMMENDATIONS.		
	It is recommended that approval be granted to o	contract with	
			25X1
5.	REFERENCES & ATTACHMENTS.		
	TAB A - Catalog Form		
		Proposal #SME-CG-58	25X1
	Dated 5 March 1966		

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R & D C	ATALOG FORM	DATE
1. PROJECT TITLE/CODE NAME	2. SHORT PROJECT DESCRIPTION	9 August 1966
Twin Light Source Table	Development and fabrica	
With Measuring Stage	Source Table with measuring	stage for viewing film
	chips.	
5. CLASS OF CONTRACTOR	6. TYPE OF CONTRACT	
Manufacturer	Fixed Price	
7. FUNDS	8. REQUISITION NO.	9. BUDGET PROJECT NO.
FY 19 \$		02107
FY 1967	10. EFFECTIVE CONTRACT DATE (Begin - end)	11. SECURITY CLASS.
F 1701		A.A Confidential
FY 19 \$	September 1966-January 1967	T Unclassified W Unclassified
2. RESPONSIBLE DIRECTORATE/OFFICE/PI		" - Oliciassified
DDT /MDTG /D0 DG	1 ·	
DDI/NPIC/P&DS/		
	velopments which cannot be util	ized with evicting light
tables require new source of	of illumination. This device w	ill satisfy that need
		Income
4. TYPE OF WORK TO BE DONE		
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Engineering Development		
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6. CATEGORIES OF EFFORT		
6. CATEGORIES OF EFFORT Major Category	SUB • CA	TEGORIES
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